THE BUSINESS NETWORK ROLE IN PRODUCTION SYSTEM INNOVATION: A CASE STUDY IN THE ORGANIC AGRO-FOOD INDUSTRY

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Abstract

The aim of the paper is to analyse the innovation of the production process of an agro-food SME that decide to move from conventional to organic production system. Moreover, the paper aims at analysing the role played by the business network during the implementation of the innovative strategy of entrepreneurial turnaround. By the reconstruction of the process of acquisition of the European Union certified trademark - Reg. CE 834/2007 - for organic products, the study aims at providing a dynamic description of the complex phenomenon of process innovation through the study of emerging changes in the network of business relations of the company according to the approach of the Industrial Marketing and Purchasing Group (IMP). The innovation process is achieved by the integration and development of new resources: for this purpose the firm needs to reconfigure the available resources and relationships as well as to develop the existing ones. The process of reconfiguring the network of key business relationships - both on the input side and on the company's output side - represents an interesting organizational challenge for the small business that has to face the structural scarcity of resources that has always characterized its development processes. The specificity of the process is made even more interesting by the choice of the empirical context, that is the organic food industry,
characterized on the one hand by the diffusion of narrow networks of highly localized producers, and by the presence of a large globalized distribution on the other.

The paper analyses a case study through a qualitative longitudinal methodology which focuses on an organic agro-food small business located in Puglia, in south-eastern Italy. The case has been chosen among a wide network of organic agro-food producers, which represents a significant sample of the organic business population in Italy.

Keywords: Innovation, Business network, organic agro-food, production

JEL Classification: M31

1 Introduction

The agro-food industry, in the particular case of the organic industry, is increasingly gaining the attention of researchers and policy-makers, occupying more and more space within research programs, and political plans, which deal with economic development and industrial renewal.

The present work aims at analysing the process of changeover of the productive system of a small food company that chooses to switch from the traditional agricultural production method to the organic model.

The choice to produce using the organic method is increasingly configured as an innovative strategic process for the development of small rural businesses committed to producing high quality local and traditional products.

This renewal process involves an increasing number of companies, so much so that the sector has achieved significant growth rates in recent years both in Italy and in Europe.

According to the report of the Italian National Information System on Organic Agriculture, SINAB 2017, the areas cultivated with organic method in Italy have reached 1,795,650 hectares, which translates into a growth of 20.3% compared to the previous year (2016).

The number of companies that have chosen to produce according to the organic method also highlights the growth of the organic industry. In fact, 72,154 certified operators are registered, on the 31/12/2016, at the Italian Ministry of Agriculture database. In 2016, 12,195 businesses decided to change from traditional to organic production system.

Compared to the data referring to 2015, the total number of operators is 20.3 percentage points. The historical trend of surfaces and operators shows that in 2016 a real growth record was achieved. The analysis in terms of % change on an
annual basis, for the period 2010-2016, indicates that these growth rates have never been recorded (SINAB, 2017).

The organic agro-food production topic is also closely linked to the broader theme of sustainability, whose principles are strongly promoted by the new policies of economic development in the Community.

For some time the discussion on the themes of health and nature - two of the main themes in which the delicate debate on the environmental sustainability of industrial productions can be discussed - closely affects the choices of consumers who increasingly reward the environmental quality of certain productions (Avermaete et al., 2015).

The researchers’ attention has therefore recently shifted to the business side of the issues and research efforts have intensified to study the sector, its salient features, and specific limits in the business environment.

These companies have hard problems in terms of development processes, since they suffer on the one hand from structural limitations related to the small size (especially scarcity of organizational, technological, intellectual, and financial resources), and on the other hand from the evolutionary dynamics of the food industry. The latter is strongly affected by the food supply networks globalization developed by the large distribution industry which gains increasing bargaining power toward the producers (Baregheh et al., 2014; Born and Purcell, 2006).

In this specific case, the small agri-food business is notoriously located within rural areas and develops production and production techniques from local agriculture, often also managing the entire production, processing and marketing cycle of the product (McAdam et al., 2017).

However, the certification standards of organic products are based on a complex system of rules and guarantees, which is continuously checked and updated.

The development of a model of organic production, therefore, is complex and expensive not only in terms of the resources and organizational and technological skills, but also in terms of relational skills for the small business that, developing new products, will have to develop relationships with new players through the management of supply and distribution networks.

Furthermore, the production and marketing management often implies, for the organic products, the need for the company to develop a great strategic sensitivity in order to achieve an effective market positioning and to seize the opportunities coming from new types of market (Baregheh et al., 2014). For these reasons, the organic industry lives in an important transition phase, in which high growth rates require a profound reflection on the dynamics of innovation processes in order to understand its nature, its salient factors, and to reconstruct its details.

specific contents elaborating explanatory business models.
The aim of this paper is therefore to reconstruct the innovation strategy within the organic agro-food industry through the interpretive tools developed by the Industrial Marketing and Purchasing Group (Hakansson et al., 2009) aimed at analysing the interaction processes in network-level business relationships.

Moving from the research on the theme of the "new business formation and development" of the Industrial Marketing and Purchasing Group (IMP), the paper analyses the process of reconversion of the company through focusing on the development processes of the key resources in the network, and on the way these processes affected the organizational development of the company.

The process innovation analysed concerns the process of converting the production system of a small agro-food business to an organic production model. The analysis wants to describe this transformation path through the reconstruction of the contents of the interaction processes that the company has developed with the actors involved in the process. More particularly, the attention is focused on the problems faced during the start-up phase of the innovation process; on reconstructing how the innovation process developed over time; on analysing the key-actors for the observed company, both upstream and downstream; on the content of the interactive processes, in terms of tangible and intangible key resources.

The purpose of the analysis is to highlight the critical elements that slow down the development of the process. All these elements are discussed in relation to the specific characteristics of the agro-food sector (Malerba, 2004; Pavitt, 1984).

The tradition of the IMP sees the business as an actor immersed in a network of business relationships. The resources and activities of the company are inter-dependently connected to the actors of the relational network, which is why the evolutionary path of the company will depend solely on the process of developing the content of these relationships. We believe that the IMP approach, so oriented towards the analysis of the processes of development of business relationships, network inter-dependencies and the effects of these in the development paths of the company, can represent an element of absolute novelty in the branch of research oriented to the agro-food industry, so as to provide new ideas and critical points of interest to the discussion on the phenomena of innovation in this sector.

2 Objectives and background

The academic studies about the phenomena of innovation, with particular reference to the contexts of SMEs, have been particularly intensified in the last ten years. This trend arises from the explicit need of researchers to develop new
analysis models for innovation process in order to replace traditional innovation indicators - suitable for the innovative context of large companies - such as the study of R&D activities, the analysis of human resources of R&D laboratories, and the application of new patents in the company (Seaden & Manseau, 2001). The innovation process in SMEs - and especially in the sector of small agro-food businesses - innovation is considered a phenomenon associated with the individual characteristics of the entrepreneur and also, in a more limited way, the skills of the workforce present in the company (Beregheh et al., 2012). The innovative context of an SME does not foresee the availability in the company of organized and diversified internal structures capable of preparing the resources and activities necessary to support research and development processes for innovation (Love et al., 2015). The scarcity and incompleteness of the resources of a single firm implies that the innovative process can be activated only by finding the know-how and technological skills needed outside the company boundaries, that is, through interaction with other companies (Love et al., 2015).

The innovative process never develops in isolation as firms are forced to integrate the resources necessary for their development from the outside, starting from the exploration of the resources present in their business context. The identification of the importance of such a principle in the study about the innovation opened the way in the literature to the development and application of models oriented to the study of the role of the relationship between companies, and of the networks of relationships that are structured in business markets (McAdam et al., 2017). In this regard, the industrial network approach is based on a long tradition of empirical observations and case studies whose analysis shows how the interaction process that develops in the relationship between two business actors represents the substantial core from which the whole process is generated. The relationship is the window by which the process of organizing and developing the resources and activities of a company can be observed and analysed; interaction is the process by which such activities and operations take shape and develop (Håkansson, 1982; Håkansson and Snehtoa, 1995). For this purpose - and in order that the development of these processes be beneficial for both parties - business relationships must develop over
the long term and create a complex process of mutual adaptation in order to combine the necessary resources. On the one hand, the combinatorial process links the activities and resources of the actors and generates a (dynamic) link of interdependence between the two companies. On the other hand, the adaptation path generates significant changes that spread across the different levels of the organizational sphere of the company in a complex way.

Hence, the understanding of the consequences that such changes have on the company provides essential information about the influence that relationships have on its internal configuration. Not only that, but in the same way the phenomena of change generated within a relationship, are transmitted through the business to the entire portfolio of direct relationships of the company - both upstream and downstream of the process - and, in a way more or less indirect, to other relationships spread in the network. Therefore, the study of relationships, and the analysis of the evolutionary processes (therefore of change) that are generated within the relationships, allow us to understand how the configuration of the resources and activities of a company depends on the configuration of external relations and not both the result of the content of the widespread processes of interactions that a company develops with its business counterparts (Havenvid et al., 2016).

The innovation implies the effort in finding new organizational, technological, operational and competitive balances. Moving from an Industrial Marketing perspective, achieving these balances means responding to the changes in the network through the development of significant company relationships. Often the change imposes itself as an unavoidable process of maintaining one's own network of relationships, such a pressure to change can be dictated by the direct (or indirect) action of external business partners who, in turn, may be driven to seek activation of innovation processes based on requests from the extended network.

From the point of view of the IMP, innovating means that companies seek the path of development by adapting to their counterparts by experimenting with "new ways of forming social bonds, combining resources and linking activities over time" (Håkansson et al., 2009).

The innovative recombination of resources, activities and relationships leads companies to create, develop, and apply new business solutions. The focal point is that through the process of interaction, companies not only develop new solutions, but also develop and share the knowledge necessary for the application and use of new solutions.

The organizational learning, for example, is a process that must be seen as endogenous to the relationship, and articulated through the interactive process. Knowledge, like innovation, is also a product of interaction, since it cannot be
detached from its context of use, otherwise the resource is useless (Håkansson and Waluszewski, 2007). For instance, the acquisition of a new production technology from the outside means for the company having to create a 'multidimensional' reception interface for the acquisition of the innovative artifact, and for the application and efficient use of the new production artefact. The company must therefore develop interfaces for interaction with the outside - and the consequent adaptation processes necessary - to interact technically, technologically, organizationally, logistically and intellectually with the supplier company and in parallel with all the other companies involved in the innovative process, whether they are suppliers or customers.

The aim of the paper is to reconstruct the process of obtaining the quality certification of the European Union (EC Reg. 834/2007) for organic products by a small agri-food company. As discussed earlier, many authors have expressed support for the need to deepen the understanding of innovation processes in the SME sector (Bessant and Tidd, 2007; Welter et al., 2017), especially by developing methodological approaches that emphasize the role of relationships and networks (McAdam et al., 2017). At the same time a great interest has been developed for the agro-food sector and for the specificity of the innovative processes that are rapidly changing its industrial and commercial context. However, in the field of research, there is still no adequate study of the specific features of the sector with regard to innovation processes (Avermaete et al., 2015). Many authors point out that much of the current research has been sclerotized around the study of high technology sectors (Welter et al., 2017), going to mechanically associate the concept of innovation solely to the phenomenon of technological development, ignoring made the extensive existing case - an indicator of the widespread, multidimensional character and complex of innovation - thus penalizing the development of the discipline both from a theoretical and a methodological point of view.

One of the objectives of the present research is therefore to spread a broader empirical view on the phenomenon of innovation, and to give depth of interpretation to the innovation process through the methodological approach of the IMP. Secondly, the study wants to focus attention on the discussion of the innovative logics specific to the agro-food sector, comparing the evidence of the most recent literature with the results of the present case study, discussing the emerging implications in an Industrial Marketing perspective.

3 Data and Methods

The study is exploratory and the methodological limits are known since they are mainly linked to the choice to develop a single case study in a longitudinal way.
However, this choice is guided by the precise intention of realizing a careful multidimensional reconstruction of the phenomenon. The innovation process needs to be analysed through the dynamic reconstruction (therefore over time) of the changes emerged along the process of productive change at the level of the single company and business network. The choice of the case study is therefore consistent to this objective (Yin, 2003), as well as allowing a closer comparison between theory and data for the development of an interpretative process as detailed and detailed (Eisenhardt, 1989).

The case study has been selected among a large group of firms involved in the organic agro-food supply chain located in Apulia, a south eastern Italian region. The firm is has been chosen because it has been the first small company in Apulia (called Alfa), in the middle '80s, to get the decision to change its agricultural productive system, moving from the conventional to the organic one; moreover the firm started its new path moving from pre-existent conventional business network with such a kind of “jump in the dark”, since there were no partners, no suppliers, no specific laws, no market and no widespread consciousness of organic food. One of the main reason why we selected the case study is that it has actually created the organic business network (in Apulia and in Italy), as it has given birth to several other business realities.

The research design is structured basing on the ARA model - Actors, Activities, Resources - (Håkansson and Snehota, 1995) borrowed from the research tradition of Industrial Marketing. The focus is on the analysis of the interaction processes at the network level between three different dimensions of analysis: actors, activities, and resources.

Data have been collected by in-depth interview with the entrepreneur co-founder of the Alfa company, aimed at bringing out the process of transformation by a detailed description and a logical reasoning with the interviewee on each fundamental step of the company’s evolutionary history. Data analysis aimed to reconstruct the contents of the interactive processes developed with the actors involved, the development processes of the key resources that mark the main stages of company development, so essentially the effort has been addressed to a dynamic reconstruction of the changes emerged during the production reconversion process both at the single business level and the business network level.

4 Results and Discussion

ALFA was born from the initiative of two friends, subsequently partners, both recent graduates, from Puglia, and coming from a family background well rooted in rural entrepreneurship. The two founding members of ALFA were, in fact, in turn
sons of agricultural entrepreneurs, although traditional. The entrepreneurial idea behind ALFA was therefore to innovate the family farming tradition, through the development of new cultivation techniques and organic products. The two entrepreneurs began to experiment with the cultivation of an organic olive oil on the decommissioned land of family businesses. ALFA began to develop as a completely new reality within the cultural, legislative, and structural vacuum that characterizes the organic sector in Italy in those years.

At the beginning the company started the marketing strategy through markets penetration of Northern Europe (in particular in Austria, Germany and Scandanavian countries), already prepared to recognize and reward the quality of the organic food. Here the number of consumers interested in the consumption of organic products was rapidly increasing.

In Italy, unlike Northern Europe, there was no potential market because it lacked the knowledge and awareness of the potential of organic food for human health and for the sustainability of the environment. For this reason ALFA created a company (called GAMMA) specialized in promoting the concept of organic food production and biodiversity. For this purpose, GAMMA was set up as a non-profit oriented consortium, between businesses and consumers, for the enhancement of organic agriculture. Its objectives were to implement promotion and communication actions in order to inform consumers and help them in organizing buying groups as alternative trade channels. The GAMMA's mission at that time was aimed at pre-competitive development for ALFA and for a growing number of companies that were transforming production from conventional to organic in Italy. GAMMA gradually developed the role of market promotion and (unconsciously) market shaper.

The second important aspect emerged during the interview is that, at that time, there were no official certification protocols, nor certification firms able to regulate, certify and guarantee the application of universal and recognized standards for organic farming. The entrepreneurial activity generated needs that were met by service companies geographically distant, there was the need to have nearby direct interlocutors supplier. These gaps led ALFA to found a product analysis and certification service company (called BETA) because they could not find that kind of suppliers. It represented a strong incentive to create the needed service from scratch; sometimes it was simply working to raise awareness of existing bodies towards the creation of the ad hoc service for organic production.

Another significant element for the dynamic reconstruction of ALFA's business evolution concerns the fact that the logistic constraints of large-scale distribution and the misalignment between ALFA's brand positioning strategy and the promotional strategy of large retail chains led Alfa to chose for specialized retail
trade channel. The latter allowed to achieve the correct positioning of the desired product, but then showed its logistic limitations in distribution costs. Those problems led ALFA to create another company (called DELTA), whose goal was to integrate the organic production distribution of several small organic farms which, in the meantime, were being born in the ALFA's referring network.

5 Conclusion

From the analysis of the answers of the interviewed entrepreneur, some considerations emerge about the role of the business network in the process of transformation of the organic agricultural production system.

A new network of actors emerged from the interaction of ALFA with the few actors of the pre-existing network. New resources (control ability and food guarantee) are emerging even through the difficulties experienced by ALFA through interaction in a network that slowed ALFA in the development of its activities. New actors are born from the reconfiguration of resources and competencies of ALFA. ALFA realizes that the know-how needed for its activities was developed both, directly, through the experience accumulated in the production process, and in the direct interaction of the actors who participated in this activity. The development of the relationships had a strong impact on the single organization and on the business network. The entrepreneurial ability of ALFA to seize opportunities through the reconfiguration of existing resources in different ways, by activating new connections, and nodes within the network, has been added to the capabilities of BETA and GAMMA for the success of ALFA and many other SMEs of the network.

The analysis of the collected data suggested also further research questions for future insights. In particular, an interesting research question concern how did GAMMA play the role of facilitator and Market Shaper for the several SMEs belonging to the observed network in the early years of its life and how does it do it in the current context (after more then 20 years). Furthermore, it can be helpful to achieve useful managerial implication to understand how, in the current context, can business networking support SMEs in innovating effectively their agricultural production system from conventional to organic.

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